US 20170127980A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2017/0127980 A1**

Rabb et al. (43) **Pub. Date: May 11, 2017**

(54) **USING ACTIVE IR SENSOR TO MONITOR SLEEP**

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(21) Appl. No.: **14/933,069**

(22) Filed: **Nov. 5, 2015**

Publication Classification

(51) **Int. Cl.**

A61B 5/11	(2006.01)
A61B 5/00	(2006.01)
A61B 5/0205	(2006.01)

(52) **U.S. Cl.**

CPC ***A61B 5/1128*** (2013.01); ***A61B 5/0205*** (2013.01); ***A61B 5/0075*** (2013.01); ***A61B 5/4809*** (2013.01); ***A61B 5/7246*** (2013.01); ***A61B 5/7278*** (2013.01); ***A61B 5/746*** (2013.01); *A61B 5/02433* (2013.01)

(57) **ABSTRACT**

In an implementation of the disclosed subject matter, a device may emit a first emission sequence of infrared radiation at a subject, and capture a first reflected sequence of infrared radiation reflected from the subject. The first emission sequence may be compared to the first reflected sequence, and, based on the comparison, a sequence of variations may be determined. The sequence of variations may be compared to signal pattern stored in a sleep profile for the subject. The subject may be determined to have exhibited sleep behavior based on the comparison of the sequence of variations to the signal pattern stored in the sleep profile. In response to determining the subject has exhibited sleep behavior, the device may capture a second reflected sequence of radiation reflected from the subject. A breathing rate of the subject and/or a heart rate of the subject may be determined based on the second reflected sequence.